

NEW SPECIES OF *PANORPA* (MECOPTERA: PANORPIDAE)<sup>1</sup>Donald W. Webb<sup>2</sup>

ABSTRACT: A new species of Nearctic *Panorpa* is described and its relationship to closely related species is discussed.

DESCRIPTORS: Mecoptera; Panorpidae: *Panorpa setifera*, new species; *P. helena*; *P. insolens*; Wisconsin.

While collecting specimens of Mecoptera for a faunistic study of the midwestern species, an unidentifiable male specimen of *Panorpa* was collected at Parfrey's Glen, Wisconsin. This specimen resembled *Panorpa helena* in the characters of the wing membranes and in having several large, black setae at the apex of the basistyle. A recent collecting trip to Wisconsin added seven additional specimens (four males, three females). On the basis of this material and after examination of the male by Dr. George Byers, at the University of Kansas it has been determined that these specimens are a new species. On the basis of the female terminalia and wing membranes the females of this species are closely associated with *P. helena* (Byers, 1962) and *P. insolens* (Carpenter, 1935; Byers, 1973) and at this time no definitive character can separate these females from those of *P. insolens*.

*Panorpa setifera*, new species

The description of this species is based on eight specimens (four males, three females in alcohol; 1 male pinned).

**Head.**--Eyes dark brown to black. Occiput, vertex, front, and rostrum dark yellowish brown. Labial palps dark brown. Ocelli pale yellow to amber on dark brown to black subtriangular pad. Scape of antenna dark yellowish brown; pedicel and flagellar segments black.

**Thorax.**--Pleura pale yellow, the dorsum somewhat darker. Pronotum with 12 long, black setae along anterior margin. Legs pale yellow, tarsi darkened toward apex, apical segment dark brown to black.

**Wings.**--Wing length 11.1-11.6 mm. Membranes (Fig. 1) pale yellow to amber. Apical band entire, dark brown to black with 2-4 small pale spots. Pterostigmal band dark brown to black, broad, continuous, anterior fork broken with apical branch reduced to small dark spot. Basal band dark brown to black, broken into two small spots. Marginal spot(s) and second basal spot absent. First basal spot small, dark brown to black. Crossveins not margined.

**Abdomen.**--Venter pale yellow to brown in both sexes. Dorsum of males pale to dark yellow with abdominal terga 2-4 dark brown. In females all abdominal terga dark reddish brown.

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<sup>2</sup> Illinois Natural History Survey, University of Illinois, Urbana, Illinois 61801.

Third abdominal tergum of male with dark brown to black notal organ along posterior margin. Sixth abdominal tergum of male with dark yellowish anal horn.

**Terminalia.**--Genital bulb of male pale to dark yellow. Ninth tergum (Fig. 2) narrow, elongate, apex emarginate forming two thick lateral lobes. Hypovalves (ninth sternum) (Fig. 3) narrow, elongate, of nearly uniform width throughout, fused near base of basistyle and extending to base of dististyle. Dististyle (Fig. 3) simple, falcate, two-thirds length of basistyle, with shallow, saucerlike excavation on mesal surface. Basistyle (Fig. 3) short, broad, with large tubercle bearing six thick, strong, black setae at mesal apex of basistyle. Ventral parameres (Figs. 3, 4, and 5) broad, sinuate, barbed along mesal margin with ventral valves extending slightly beyond base of dististyle, fused basally to form two narrow elongate extensions which extend over half the length of ventral valves. Lobes of aedeagus short (Fig. 4), broad, not extending beyond base of dististyle.

Subgenital plate of female (Fig. 6) cone-shaped, rounded apically. Genital plate (Fig. 6) short,  $0.95 \pm 0.004$  mm ( $N = 3$ ) in length. Distal plate 0.59 mm in length, broad, emarginate apically to form two moderately thick lateral lobes. Spermathecal apodeme narrow, elongate, extending beyond base of distal plate 0.63 times length of distal plate, not extending apically to base of apical emargination of distal plate. Basal plate absent.

This species is known from a single locality in southern Wisconsin and is closely associated with *P. helena* and *P. insolens*. Collections made at various localities within a radius of thirty miles around Parfrey's Glen produced no additional specimens. The males of *P. setifera* resemble *helena* in the characters of the wing membranes and in the presence of coarse, dark setae at the apex of the basistyle. The males of *setifera* differ from *helena* in the presence of a broad, mesal tubercle at the apex of the basistyle bearing six dark, thick setae (Fig. 3) and with the ventral parameres fused basally to form a pair of narrow elongate projections (Fig. 3). The females of *setifera* resemble closely both *P. helena* and *P. insolens* in the characters of the wing membranes and the genital plate. No morphological characters could be found to separate *setifera* from *insolens* and both of these species are separated from *helena* only on the length of the genital plate.

**Specimens Examined.** --Holotype ♂ (INHS), WISCONSIN, Sauk County, Parfrey's Glen, 3.0 miles north of Merrimac, July 21, 1973, D.W. Webb. Allotype ♀, Paratypes 3 ♂♂ 2 ♀♀ (INHS, SEM), same data as holotype; 1 ♂ (INHS) August 5, 1972, same locality as holotype. Type specimens are deposited in the Illinois Natural History Survey (INHS) and the Snow Entomological Museum (SEM), University of Kansas.

**Habitat.** --All specimens were collected on jewel-weed (*Impatiens* sp.) and stinging wood nettle (*Laportea canadensis*) in a oak-maple woods along the spring fed stream in Parfrey's Glen.

#### Key to Related Species of *Panorpa*

Because no new keys to the species of *Panorpa* have been published since Carpenters' (1931) revision of the Nearctic Mecoptera and because certain synonymy and new species have been determined the keys to this new species are modifications of the keys present in a forth coming paper on the Mecoptera of Illinois which is now in press.

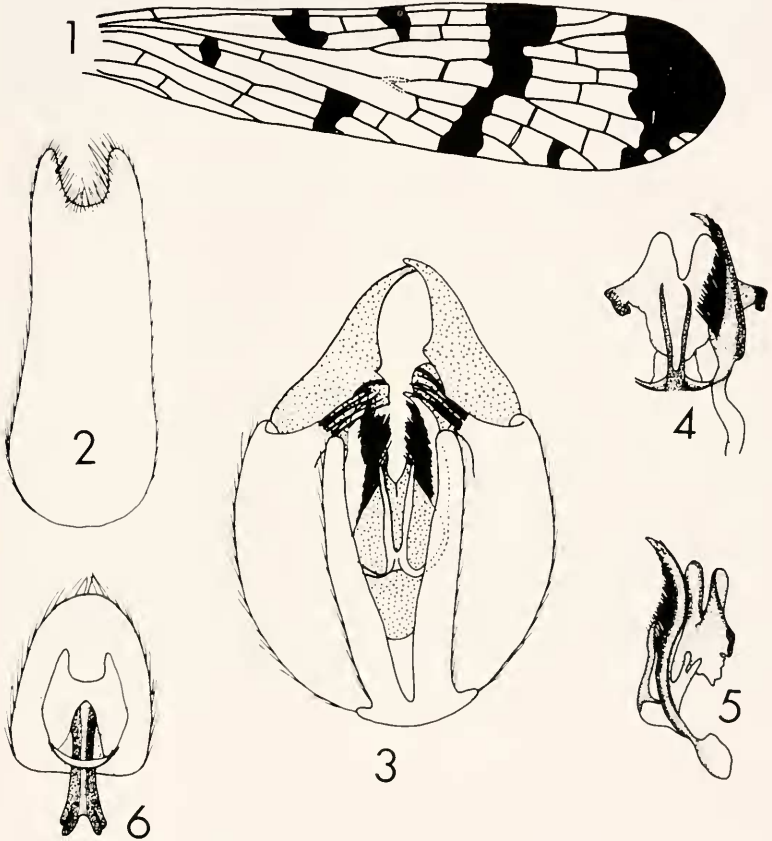
The males of *P. setifera* separate out in couplet 14 of the Mecoptera of Illinois which is modified here to include *setifera*.

14. Basistyle with 1-6 dark, thick mesal setae (Fig. 3) at apex ..... 14a  
 Basistyle without dark, thick setae at apex ..... 15  
 14a. Basistyle with large, mesal, apical tubercle bearing six thick, black setae (Fig. 3).  
 Ventral parameres broad, sinuate, barbed along mesal margin (Fig. 4), and fused basally to form two, narrow, elongate projections which extend posteriorly over half the length of ventral parameres

Basistyle without apical tubercle but with 1-3 dark, mesal setae at apex. Ventral parameres barbed along mesal margin, but not fused basally to form two mesal projections ..... *helena*

The female genital plate of *P. setifera* separates out in couplet 22 of the Mecoptera of Illinois which is modified here to include *setifera*.

22. Genital plate over 1.04 mm in length ..... *helena*  
 Genital plate (Fig. 6) less than 1.00 mm in length ..... *setifera*  
 ..... *insolens*



Figures 1-6 *Panorpa setifera*. 1) right fore wing. 2) dorsal view of ninth tergum. 3) ventral view of male terminalia. 4) ventral view of ventral parameres and aedeagus. 5) lateral view of ventral parameres and aedeagus. 6) dorsal view of female genital and subgenital plate.

#### LITERATURE CITED

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